

Content available at: <https://www.ipinnovative.com/open-access-journals>IP International Journal of Forensic Medicine and
Toxicological SciencesJournal homepage: <http://www.ijfmts.com/>

Review Article

Conscious sedation and anesthesiologist — A Review

Akshaya Narayan Shetti¹, Vijayakumar Ranganathan², Safdhar Hasmi R³,
Abhishek H N^{4,*}, Preeti Prakash Kale⁵, Rachita G Mustilwar⁵¹Dept. of Anaesthesiology, Dr Balasaheb Vikhe Patil Rural Medical College, PIMS, Loni, Maharashtra, India²Dept. of Anaesthesiology, KG Hospital, Coimbatore, Tamil Nadu, India³Dept. of Anaesthesiology and Critical Care, King George Medical University, Lucknow, Uttar Pradesh, India⁴Dept. of Anaesthesiology, Vydehi Institute of Medical Sciences and Research Centre, Bengaluru, Karnataka, India⁵Dept. of Periodontology, Rural Dental College, PIMS (DU), Loni, Maharashtra, India

ARTICLE INFO

Article history:

Received 26-11-2022

Accepted 14-12-2022

Available online 21-01-2023

Keywords:

Anesthesiologist

Conscious sedation

Day care

Dentistry

Medico-legal

ABSTRACT

Conscious sedation is most commonly practiced in western world in comparison to developing and underdeveloped countries. Due to advancement of technology and availability of safety drugs to anesthetize the patient is helping the patients to undergo certain procedures especially in dentistry. This technique helps mainly for pediatric patients and to patients who are very anxious. One should not forget that if patient selection is not appropriate or if minimum required facilities are not available then he or she may have to face medico-legal problems. This article reviews the concept of conscious sedation and the role of anesthesiologists.

This is an Open Access (OA) journal, and articles are distributed under the terms of the [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License](https://creativecommons.org/licenses/by-nc-sa/4.0/), which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprint@ipinnovative.com

1. Introduction

Conscious sedation is one of the types of anesthesia technique. Although it is not popular due to various reasons in developing and underdeveloped countries, with improvement in technology and safe anesthesia medications it is becoming popular. Pediatric patients and adult patient who are having severe anxiety try to avoid taking treatment which affects the health ultimately leading to life threatening complications. Many a time's anxiety can be managed either by non-pharmacological techniques like behavior therapy or desensitization.¹ Sometimes the patients are exposed to general anesthesia which neither a cost effective technique nor free from complications. This technique also improves the patient and surgeon satisfaction.²

* Corresponding author.

E-mail address: abhishekh78@gmail.com (Abhishek H N).

2. Conscious Sedations Concepts and the Requirements

Consciousness means whenever a patient is capable to respond for command and has protective reflexes intact, including the ability to clear and maintain airway. The main of this technique is to allay the anxiety and increase the pain threshold of the patient. Here in this technique certain drugs or anesthesia agents are used to depress the central nervous system such an extent that one should be in touch with the subject by verbal communications throughout the procedure.

2.1. The consent and counseling of the patient or patient relatives and medico-legal implications

It is always important that patient and the immediate relatives must be informed about the type of surgery performed and type of anesthesia is given. All possible advantages and disadvantages should be explained to them.

A well written informed consent has to be taken from the patient or from the parent if patient is minor.

3. Patient Selection

One of the key successes for conscious sedation technique is patient selection. Always have patient with American Society of Anesthesiologist physical status one and two. All patients with physical status 3 and 4 should be referred to higher center. It is also important to reduce the anxiety level of the patient by proper counseling. One must understand the patient should be cooperative for the procedure and should be able to understand it.

4. The Set Up and Back Up

Most of the procedures are done in outpatient or day care basis and hence one should be very careful about type of the procedure done. The setup must not be in a rural or peripheral area where accessing the higher center is difficult. The set up should have adequate oxygen cylinder supply, a minimum monitoring system i.e electrocardiogram, pulseoxymetry, and blood pressure measurement should be available. The materials required for emergency airway maintenance and all emergency drugs should be available. A dedicated suction machine should be available for anesthesiologist.

5. Procedures Performed

The most common procedures are included are dental related like, extraction, gingival surgeries, minor procedures on tooth.³ Some dermatologic and cosmetic related procedures, transesophageal echocardiography, upper gastro intestinal endoscopy, radiological interventional surgeries, superficial surgeries are performed.⁴⁻⁶

6. Check List

Always the anesthesiologist should have a check list and must ensure it is done before proceeding for the proposed procedure. The checklist details are mentioned in Table 1.

7. Recordkeeping

It is very important to maintain the record of the patient in detail especially the age, type of the procedure, duration of the procedure and anesthesia drugs used. The recordkeeping helps to overcome medico-legal problems may occur in future and is considered as one of the valid document.

8. Anesthesia Drugs Used

Entonox is most commonly used during dental treatment.^{7,8} Other short acting drugs like remifentanyl, fentanyl, dexmedetomidine, and certain benzodiazepines are used. It is always better to have combination of nerve block using

Table 1: Check list for conscious sedation

S. N	Details
1	Correct identification of the patient
2	Physical examination and basic investigation as per ISA guidelines
3	A responsible relative must be available
4	Check for nil by oral status
5	Any drug allergy or comorbid history should be noted
6	Pre-procedure vitals check
7	Counseling
8	Written and informed consent from the patient or from the close relatives as per the law
9	Explain all possible benefits and complications
10	Machine check
11	Monitor check
12	All necessary emergency equipment should be in working status especially laryngoscope, resuscitation bag, oxygen supply
13	It is ideal to have an intravenous access to administer emergency drugs
14	Check emergency drugs and their expiry dates
15	Intra and post procedure the vital recording should be done
16	Instruction for post-procedure should be given in written
17	The emergency contact details should be written in bold and capitals
18	One more anesthesiologist should be kept ready so that if any call for help is asked that person should reach the place immediately
19	Collaboration should be made and one bed should be kept standby in critical care unit for the safety of patient
20	Antagonist drugs should be easily available

long acting local anesthetics with sedation.⁹⁻¹¹

9. Possible Complications

Aspiration, hypotension, neurogenic shock, vasovagal attack and hypoxemia.

10. Conclusion

Conscious sedation is one of the safe methods which have a wide safety margin due to newer available technology. This technique should be used in developing and underdeveloped countries but with a trained anesthesiologist. There is a definitive need of creating awareness among surgeons and anesthesiologists.

11. Source of Funding

None.

12. Conflict of Interest


None.

References

- Melini M, Forni A, Cavallin F, Parotto M, Zanette G. Conscious sedation for the management of dental anxiety in third molar extraction surgery: a systematic review. *BMC Oral Health*. 2020;20(1):155.
- Pourabbas R, Ghahramani N, Sadighi M, Azar P, and FG. Effect of conscious sedation use on anxiety reduction, and patient and surgeon satisfaction in dental implant surgeries: A systematic review and meta-analysis. *Dent Med Prob*. 2022;59(1):143–9.
- Kapur A, Kapur V. Conscious Sedation in Dentistry. *Ann Maxillofac Surg*. 2018;8(2):320–3.
- Hiew CY, Hart GK, Thomson KR, Hennessy OF. Analgesia and sedation in interventional radiological procedures. *Australas Radiol*. 1995;39(2):128–34.
- Shabanie A. Conscious sedation for interventional procedures: a practical guide. *Tech Vasc Interv Radiol*. 2006;9(2):84–8.
- Karian VE, Burrows PE, Zurakowski D, Connor L, Mason KP. Sedation for pediatric radiological procedures: analysis of potential causes of sedation failure and paradoxical reactions. *Pediatr Radiol*. 1999;29(11):869–73.
- Young A, Ismail M, Papatsoris AG, Barua JM, Callear JG, Masood J. Entonox® inhalation to reduce pain in common diagnostic and therapeutic outpatient urological procedures: a review of the evidence. *Ann R Coll Surg Engl*. 2012;94(1):8–11.
- Smith WD. A history of nitrous oxide and oxygen anaesthesia. I: Joseph Priestley to Humphry Davy. *Br J Anaesth*. 1965;37(10):790–8.
- Jalowiecki P, Rudner M, Gonciarz P, Kawecki M, Petelenz P. Sole use of dexmedetomidine has limited utility for conscious sedation during outpatient colonoscopy. *Anesthesiology*. 2005;103(2):269–73.
- Sun GQ, Gao BF, Li GJ, Lei YL, Li J. Application of remifentanyl for conscious sedation and analgesia in short-term ERCP and EST surgery. *Medicine*. 2017;96(16):6567. doi:10.1097/MD.00000000000006567.
- Litman RS. Conscious sedation with remifentanyl and midazolam during brief painful procedures in children. *Arch Pediatr Adolesc Med*. 1999;153(10):1085–8.

Author biography

Akshaya Narayan Shetti, Professor  <https://orcid.org/0000-0002-4688-8071>

Vijayakumar Ranganathan, Senior Consultant Cardiac Anaesthesiologist  <https://orcid.org/0000-0001-7463-5066>

Safdhhar Hasmi R, Senior Resident

Abhishek H N, Assistant Professor  <https://orcid.org/0000-0001-9035-8898>

Preeti Prakash Kale, Lecturer

Rachita G Mustilwar, Lecturer

Cite this article: Shetti AN, Ranganathan V, Safdhhar Hasmi R, Abhishek H N, Kale PP, Mustilwar RG. Conscious sedation and anesthesiologist — A Review. *IP Int J Forensic Med Toxicol Sci* 2022;7(4):114-116.